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Governor's Blue Ribbon Water Task Force

Meeting Notes
July 28-29, 2004
Albuquerque, NM

Attendees: Brian Burnett, John D'Antonio, Estevan Lopez, Bill Hume, Anne Watkins, Conci Bokum, Stan Bulsterbaum, Frank Chaves, Eileen Grevey Hillson, Debbie Hughes, Howard Hutchinson, John Leeper, G.X. McSherry, Paul Paryski, Bob Vocke and Jack Westman attended the meeting. Sterling Grogan (MRGCD), Phillip King (NMSU/EBID), Phillip Pohl (SNL), Tanya Trujillo (ISC General Counsel), and Craig Roepke (ISC) attended as guests.

The next meeting of the BRWTF will be August 25-26 in Albuquerque.

Agriculture Water Conservation and Efficiency Strategies Panel

Phillip King made the following opening observations:

- Opportunities for agriculture water conservation vary around NM and are site specific;
- Improving farm efficiency may increase basin depletions (one might increase crop production and use more water e.g., alfalfa); and
- Measurement is an important tool in improving water use efficiency.

Phillip Pohl made the following opening observations (see http://eweb.lanl.gov/blueribbon.htm for presentation):

- Crop E&T gradients are great in NM's arid conditions;
- E&T gradients can be reduced in controlled environments; and
- Hydroponic forage grown under controlled environmental conditions uses fifty times less water than conventional field production and significantly less space.

Sterling Grogan made the following opening observations (see http://eweb.lanl.gov/blueribbon.htm for presentation):

- Agriculture uses 70-80% of the water (GW&SW) in NM, however, in the Middle Rio Grande Valley water use is approx. 1/3 ag., 1/3 riparian, and 1/3 M&I;
- The MRG Regional Water Plan study indicates that aggressive agriculture water conservation could save 15,000 afy or 10% of the consumptive use of MRGCD; and
- MRGCD has reduced diversions by 31% since 2001 – the river is managed through a daily conference call, which is the only way to maintain RG silvery minnow populations and keep the irrigation system operating (it was noted that 10% of the 30% might be attributable to the drought).

G.X. McSherry made the following opening observations:

- People have become too distant from the land;
- Traditional acequia irrigation is surface water dependent and sometimes there is not water;
- State-of-the-art subsurface drip delivery systems can cost $1500/acre;
- Flood irrigation requires 10 gal/min/acre while subsurface drip takes 6 gal/min/acre (and also provides more uniform automated water and fertilizer application results and better crop production);
- Agriculture crops require differing amounts of water for optimal production; and
- Agricultural businesses must make a profit.

The following points were made during Task Force discussions following the opening observations:

- A better understanding of temporal and spatial agriculture conservation/efficiency vs. basin depletion is needed (requires SW&GW monitoring) – this is an evolving issue;
- A clearinghouse for agriculture water conservation/efficiency-related information would be useful;
- OSE provides water conservation information, but funding has been cut;
- The NMSU Agriculture College provides information;
- USDA provides agriculture water conservation information;
- Agriculture water conservation/efficiency opportunities vary depending on the water source (e.g., GW vs. SW & opportunities to use drip irrigation) – deep percolation to preserve soil health is also an issue;
- There can be substantial winter dormant season ET losses, but summer crop ET losses are much higher;
- Tax incentives could be used to encourage agriculture water conservation, but a compelling economic argument has not been made to pass the needed legislation;
- Allowing an agriculture water conservation tax credit creates an equity issue - all entities putting NM's water to beneficial use must conserve water;
- Capital cost of greenhouse agriculture hydroponics might limit its application to uses such as dairy, but the substantial reduction in water consumption and land base requirements are incentives;
- The culture of farming and aesthetics might limit use of greenhouse hydroponics;
- The BRWTF needs consensus water use numbers by use sector;
- Agriculture water must move to M&I uses in the future;
- Low interest loans are available to irrigation districts, which can be passed along to individuals;
- Water users must stay within their consumptive use allotment, but it may not be defined;
- OSE can place conservation requirements on water right transfers;
- OSE can place conservation requirements on use of San Juan/Chama water;
- Legislation was passed that requires conservation plans for entities using 500af/yr or more by end of 2005;
- Agriculture water conservation tax credits may not have the desired result;
- Loans to improve irrigation efficiency from the irrigation works fund may not get approved by ISC because of farm conservation efficiency/basin depletion issues; and
- NM must deal with cumulative basin depletion issues and not dig a hole e.g., the Pecos situation.

The following information is from an USDA web site. Note that irrigated agriculture consumed 81 percent of all water. The 2000 OSE total diverted depletion number for irrigated agriculture is 1.8maf and total diverted depletion number is 2.2maf or 82 percent.

Irrigated agriculture occurred on about 15 percent of all U.S. farms, and accounted for 55.0 million irrigated acres in 1997, the year of the last Agricultural Census. In 1995, irrigated agriculture also accounted for about 40 percent of total freshwater withdrawals in the U.S. [150.2 million acre-feet out of 382.5 million acre-feet for all sectors] (Solley, Pierce, and Perlman, 1998). Irrigated agriculture also accounted for the largest consumptive use of water, 91.1 million acre-feet, or 81.0 percent of 112.1 million acre-feet for all sectors. Given this level of use, a significant body of research indicates that agricultural water conservation will become increasingly important as a critical source of additional water supply to meet growing water demands for municipal/urban, industrial, recreation, endangered species and ecosystem health, and Native American trust responsibilities (Schaible, 2000; Schaible and Aillery, 2003; Willis and Whittlesey, 1998; NRC, 1992; NRCS, 1997a; NRCS, 1997b). The importance of agricultural water conservation has been recognized in the USDA report Food and Agricultural Policy: Taking Stock for the New Century (2001), and in the 2002 farm bill. The Farm Security & Rural Investment Act of 2002 provides funding for a new ground- and surface-water conservation initiative ($250 million over fiscal years 2002-2006), emphasizing cost sharing for more efficient farm irrigation systems.

Most irrigated farms are small farms, while most farm sales from irrigated farms, irrigated acres, and farm water use is accounted for by large farms. In the 17 Western States, which account for 77 percent of irrigated acres in the U.S., nearly 81 percent of irrigated farms are small farms (less than $250,000 in total

farm sales (FS)). About 72 percent of total sales from irrigated farms in the West originate from the largest 9.5 percent of irrigated farms (FS > $500,000). Large irrigated farms (FS ≥$250,000) account for 61 percent of irrigated crop acres and 66 percent of the total farm water applied. The largest 9.5 percent of irrigated farms (FS ≥$500,000) account for 48 percent of total farm water applied.

Only about 13 percent of irrigated farms in the West participated in public cost-share programs for water conservation between 1994 and 1998. Smaller irrigated farms account for 77 percent of program participants in USDA cost-share programs designed to encourage irrigation or drainage improvements, even though smaller farms account for only 39 percent of irrigated acres and only 34 percent of farm water applied in the West. So farm size patterns likely influence the effectiveness of water conservation programs, as well as USDA's small farm mission. The report A Time to Act (2000), and USDA's small farm website highlight USDA's concerns regarding the plight of small farms. The efficacy of resource conservation and environmental policy goals are growing USDA concerns in the face of agricultural structural change.

John and Estevan briefed the Task Force on OSE/ISC activities making the following points:

- The current $2.4B AZ water settlement includes the Gila River Indian settlement, which allows NM to divert 14,000 afy from the Gila River Basin and NM would receive $128M ($66M no strings attached), however, bypass parameters are required to protect downstream users and the ecosystem;
- The Active Water Resource Management regulations will provide a framework for NM with details in the basin-specific plans – the public comment period ends July 26th;
- The ISC has passed a resolution endorsing the framework;
- Initial active water resource management will focus on lower Pecos, lower Rio Grande, Mimbres, San Juan, upper Chama, Nambe/Pojoaque/Tesuque, and Gallinas – water masters are being hired;
- Active water resource management is critical in enforcing priority administration during times of shortage (e.g., drought) and respecting sovereignty of Tribes and Pueblos;
- The OSE approach to active water resource management moves NM forward (e.g., adjudication, water masters, and metering & measuring);
- Voluntary temporary replacement plans for juniors (e.g., municipalities) allow expedited transfers in the market place based hydrologic analyses (including impairment concerns) once basin-specific regulations are available;
- OSE can restrict domestic well and livestock use and treat as an *in situ* use – these are not transferable water rights;
- The intent is not to take over site-specific systems (e.g., EBID), but to assist where appropriate;
- Feedback from the Interim Committee has been positive;
- Active water resource management creates SWP progress;
- OSE would like to see an increase in the domestic well permit fee, which could be used to create a fund to deal with depletions;
- OSE/ISC legislative packages are being developed based on OSE/ISC plans, which have been prepared and are consistent with the Governor's agenda;
- Progress has been made on the proposed Navajo settlement, which should go to the ISC in August and legislation introduced in Congress this September (the proposed settlement is fair and there is sufficient water);
- Aamodt settlement discussions are continuing – well owner inclusion remains an issue; and
- The federal government would like to see increased state funding in the settlements.